

WHAT IS CLAIMED IS:

1. A cardiac harness configured to fit about a patient's heart, the harness comprising:

a first panel constructed of a first material; and

a second panel constructed of a second material that is different than the first material;

wherein the first and second panels are positioned adjacent one another.

2. The cardiac harness of Claim 1, wherein the harness has a longitudinal axis and further comprises a first end and a second end which are longitudinally opposed to one another, and the first and second panels are adjacent one another with the first panel being closer to the first end than the second panel.

3. The cardiac harness of Claim 1, wherein the harness has a longitudinal axis and further comprises a first end and a second end which are longitudinally opposed to one another, and the harness extends circumferentially about the longitudinal axis between the first and second ends.

4. The cardiac harness of Claim 3, wherein at least one of the panels comprises at least one sensor configured to sense electrical activity of the patient's heart.

5. The cardiac harness of Claim 3, wherein at least one of the panels comprises at least one electrode configured to deliver an electrical charge to the surface of the patient's heart.

6. The cardiac harness of Claim 3, wherein the first panel extends from the first end to the second end of the harness but only about a portion of the circumference of the harness.

7. The cardiac harness of Claim 6, wherein the second panel extends from the first end to the second end of the harness but only about a portion of the circumference of the harness.

8. The cardiac harness of Claim 1, wherein the first panel is electrically conductive and the second panel is generally electrically non-conductive.

9. The cardiac harness of Claim 8, wherein the first panel comprises a spring member configured to expand and contract in a direction generally following the circumference of the harness.

10. The cardiac harness of Claim 9, wherein the second material is substantially inelastic.

11. The cardiac harness of Claim 9, wherein the second panel is generally flexible.

12. The cardiac harness of Claim 11, wherein the second panel is generally inelastic in a direction generally following the circumference of the harness, but is generally elastic in a longitudinal direction.

13. The cardiac harness of Claim 8, wherein the harness comprises a plurality of first panels and a plurality of second panels, and each of the first panels is disposed adjacent a second panel.

14. The cardiac harness of Claim 13, wherein the second panel comprises at least one rigid bar extending transversely between adjacent first panels.

15. The cardiac harness of Claim 8, wherein the second panel is connected to the first panel through a hinged connection.

16. The cardiac harness of Claim 8, wherein the first panel comprises a series of eyelets, and a line is threaded through the eyelets to connect the first panel to the second panel.

17. A cardiac harness configured to fit about a patient's heart, the harness comprising:

a plurality of conductive panels, each of the panels being spaced from an adjacent panel so that there is no electrical continuity between the conductive panels.

18. The cardiac harness of Claim 17, wherein a non-conductive panel is disposed between two adjacent conductive panels.

19. A method of manufacturing a cardiac harness, comprising:

providing a flat sheet of conductive material;

etching at least one spring member out of the conductive material; and

coating the etched spring member with a dielectric material.

20. A cardiac harness configured to fit about a patient's heart, the harness comprising a base end, an apex end, a right portion and a left portion, the right portion configured to be placed generally adjacent a right side of the patient's heart and the left portion configured to be placed generally adjacent a left side of the patient's heart, wherein a distance between the apex end and the base end in the right portion is greater than a distance between the apex end and the base end in the left portion.

21. The cardiac harness of Claim 20, wherein the harness comprises a plurality of rows of serially interconnected spring hinges configured to expand and contract in a direction about a circumference of the harness, and there are more rows on the right side of the harness than on the left side of the harness.

22. The cardiac harness of Claim 21, wherein one or more rows on the right side of the harness are disposed about only a portion of the circumference of the harness.

23. A cardiac harness configured to fit about a patient's heart, said harness comprising a plurality of interconnected spring members comprised of a conductive material, at least some of said spring members connected to other spring members by a dielectric material such that the dielectric connected spring members are substantially electrically insulated from each other.

24. A cardiac harness configured to fit about a patient's heart, the harness comprising a conductive material, the conductive material being coated with a dielectric coating so as to electrically insulate at least the heart tissue from the conductive material.

25. The cardiac harness of Claim 24, wherein the conductive material is entirely coated with the dielectric coating so that the entire harness is electrically insulated.

26. The cardiac harness of Claim 24, wherein the harness is coated with silicone rubber.

27. The cardiac harness of Claim 24, wherein the harness is coated with silicone rubber.

28. The cardiac harness of Claim 24, wherein the dielectric coating comprises an elastomer.

29. The cardiac harness of Claim 24, wherein the conductive material comprises a wire formed into a plurality of hinge members.

30. A method of manufacturing a cardiac harness, comprising:  
providing a metallic wire;  
covering the wire with a dielectric material; and  
forming the wire into a plurality of spring members.
31. The method of Claim 30, wherein said covering comprises:  
introducing a fluid into a tube; and  
sliding the tube over the wire.
32. The method of Claim 31, wherein said introducing comprises introducing a solvent.
33. The method of Claim 31, wherein said sliding comprises sliding said tube onto a leader portion of said wire and sliding said tube from the leader portion onto a harness portion of said wire comprised of said spring members arranged in a first configuration.
34. The method of Claim 33, wherein said sliding onto said harness portion comprises changing the shape of the spring members by straightening the harness portion of the wire, said method further comprising substantially returning the shape of the spring members to substantially said first configuration.
35. The method of Claim 30, wherein said dielectric material comprises silicone.
36. The method of Claim 30, wherein the wire is formed into the spring members prior to being covered with the dielectric material.
37. The method of Claim 36, wherein said covering comprises:  
applying the dielectric material to the wire such that the wire is insulated by the dielectric material; and  
removing excess dielectric material from the wire so that the shape of the dielectric material generally follows the shape of the spring members.
38. The method of Claim 37, wherein said removing comprises laser cutting said dielectric material.
39. The method of Claim 37, wherein said dielectric material comprises silicone.
40. The method of Claim 30, wherein the wire is coated with the dielectric material prior to being formed into a plurality of spring members.
41. A method of manufacturing a cardiac harness, comprising:

providing a flat sheet of conductive material;  
etching at least one spring member out of the conductive material; and  
coating the etched spring member with a dielectric material.

42. The method of Claim 41, wherein said coating comprises:

applying the dielectric material to the etched spring member such that the etched spring member is insulated by the dielectric material; and

removing excess dielectric material from the etched spring member so that the shape of the dielectric material generally follows the shape of the spring members.

43. The method of Claim 42, wherein said removing comprises laser cutting said dielectric material.

44. The method of Claim 42, wherein said dielectric material comprises silicone.

45. A cardiac harness which circumferentially surrounds a patient's heart and extends longitudinally from an apex portion to a base portion of the heart, comprising:

a first portion and a second portion, the first portion configured to be disposed closer to an apex portion of the heart than the second portion;

the first portion comprising a plurality of interconnected panels that are electrically insulated from one another along respective longitudinal sides to inhibit electrical conduction circumferentially about said harness; and

the second portion being electrically insulated from the first portion.

46. The cardiac harness of Claim 45, wherein the second portion comprises a plurality of circumferentially extending rings comprising a plurality of interconnected spring elements, said rings being electrically insulated from one another.

47. The cardiac harness of Claim 45, wherein the first portion is connected to the second portion by at least one non-conductive connector.

48. The cardiac harness of Claim 47, wherein the first and second portions are coated with a dielectric material, and the at least one non-conductive connector comprises the dielectric material.

49. A cardiac harness, comprising:

a first spring array and a second spring array, each spring array comprising a plurality of zig portions interconnected with a plurality of zag portions such that said

array is generally zigzag shaped, each of said zig portions and zag portions comprising a plurality of interconnected spring elements;

wherein the first and second spring arrays are connected to one another at a plurality of discrete locations corresponding to interconnections of a zig portion with a zag portion.

50. The cardiac harness of Claim 49, additionally comprising an elongate coil, one or more windings of said coil surrounding portions of adjacent spring arrays at at least some of said discrete locations.

51. The cardiac harness of Claim 49, wherein said spring array is formed from a single piece of material.

52. The cardiac harness of Claim 49, wherein said spring array is formed from shape memory material.

53. A cardiac harness configured to fit about a patient's heart, said harness comprising a plurality of interconnected spring members comprised of a conductive material, at least some of said spring members connected to other spring members by a dielectric material such that the dielectric connected spring members are substantially electrically insulated from each other.